Algebraic Concepts Name ______________________________
Lesson 22: Linear Inequalities and Their Graphs
Math for Standards Date _______________________________

Start off by graphing the ______________________________ by making the inequality look like slope-intercept form.

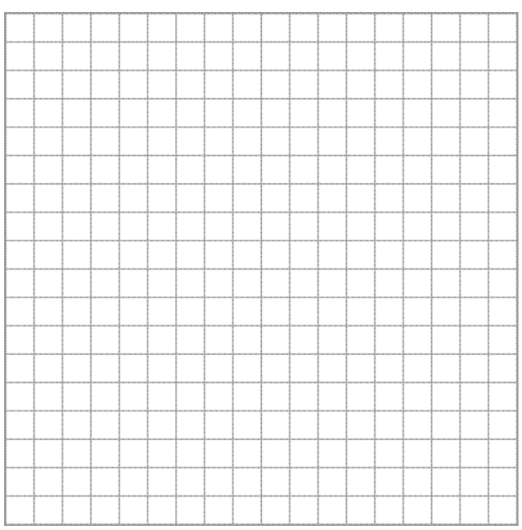
The line will be ____________ for ≥ and ≤, and _____________________ for < and >.

Determine where to _____________ by checking the signs if the inequality is written in slope-intercept form: shade ___________ for ≥ and >, and shade ______________ for < and ≤.

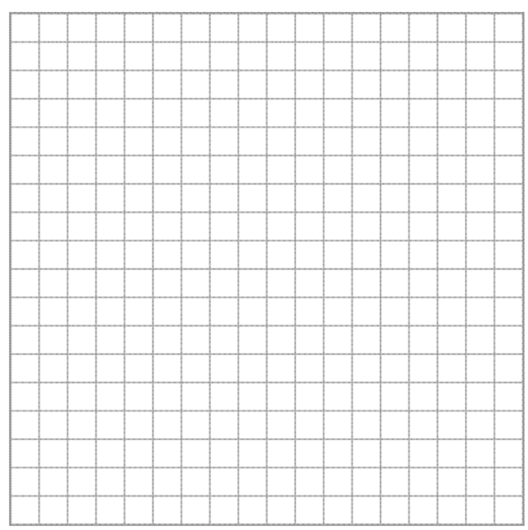
Check your answer by choosing a _____________ in the shaded region (NOT ON THE LINE) and plugging it into the original inequality.

Example 1: Graph the following inequalities. State three possible solutions.

a. $y > 2$

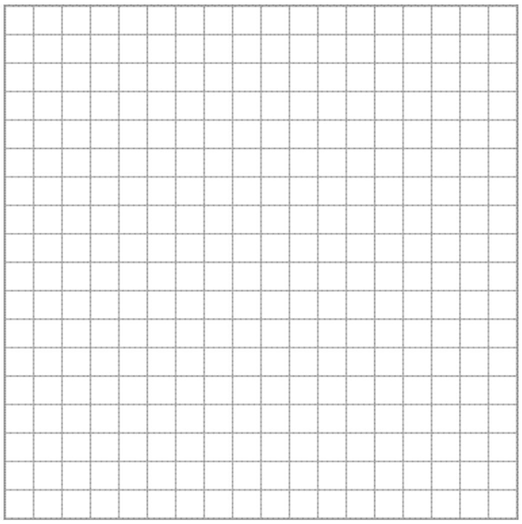


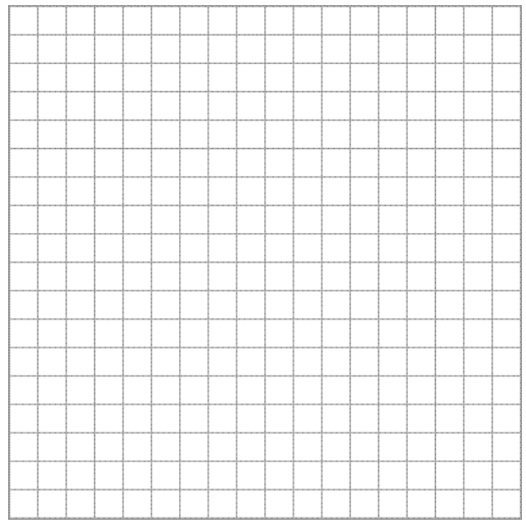
b. $x + y > 3$



c. $x - y \geq 5$

d. $y - x \leq 2$





Example 3: Is (3, 2) a solution to $y < 2x - 4$? How do you know?

Example 2: Matt Mitarnowski doesn't like to cook from recipes. When he makes a stew, he uses a combination of onions and potatoes, but does not measure the weight of either. However, he does not use more than a total of 500 grams of the two vegetables.

a. Write an inequality to represent the situation.

Let n = the weight of the onions and p = the weight of the potatoes

b. Is the point $(n, p) = (275, 225)$ a solution to the inequality? How do you know?